

CLAIMS

1. A transmitter for transmitting a telecommunications signal, the transmitter having an input for an input signal and an output for a load, said transmitter including:

- 5 - a controlled self oscillating modulator for pulse width modulating the input signal, said controlled self oscillating modulator comprising a comparator and means for generating controlled self oscillations;
- a switching stage for amplification of the pulse width modulated signal, thus generating an amplified pulse width modulated signal;
- a low pass demodulation filter for demodulating the amplified pulse width modulated signal, thus obtaining an output signal to be fed to said transmitter output;
- a feedback loop from the filter to the transmitter input; and
- means for adjusting an output impedance of the transmitter, the controlled self oscillating modulator and the switching stage forming a controlled self oscillation loop, said controlled self oscillation loop being connected in series to
- 20 the input of the transmitter and the demodulation filter.

2. The transmitter according to claim 1 further comprising an output transformer having a first winding which is connected with one of its ends to the low pass filter, said means for

25 adjusting the output impedance including a sense resistor connected between a reference potential and a connection point at the other of the ends of the first transformer winding, said connection point being connected to the transmitter input.

10026936-122791

3. The transmitter according to claim 1, wherein the controlled self oscillations have a frequency in the range of 3 to 10 times the frequency of the telecommunications signal.

4. The transmitter according to claim 1, wherein said load is a digital subscriber line.

5. The transmitter according to claim 1, wherein said load is a coaxial line.

6. The transmitter according to claim 1, wherein said load is a radio antenna.

7. A line card for connection of a telecommunications equipment to a transmission line, wherein said line card comprises a transmitter according to claim 1.

8. A modem for connection of a telecommunications equipment to a transmission line, wherein said modem comprises a transmitter according to claim 1.

9. A method of transmitting a telecommunications signal to a load, the method comprising the steps of:

- Superimposing the telecom signal on a carrier signal into a pulse width modulated signal;
- Amplifying the pulse width modulated signal;
- Inputting the amplified pulse width modulated signal to a controlled selfoscillating modulator;
- Generating said carrier signal in said controlled selfoscillating modulator;

- Inputting the amplified pulse width modulated signal to a low pass filter to generate a demodulated signal;
- Feeding back said demodulated signal and superimposing it on the telecommunications signal;
- 5 - Adjusting an output impedance of the transmitter; and
- Feeding said demodulated signal to the load.

10026936-122701
10 10. The method according to claim 9, wherein the carrier signal has a frequency in the range of 3 to 10 times the frequency of the telecommunications signal.

11. The method according to claim 9, wherein the transmitter comprises an output transformer having a first winding which is connected with one of its ends to the low pass filter and with the other of its ends to a sense resistor which is connected to a reference potential, the method including:

- 15 - sensing a current through the sense resistor;
- performing said adjusting of the output impedance with the aid of said current.